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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/923,422

08/08/2001

Osamu Tsujii

35.C15675

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07/07/2004

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EXAMINER

GENCO, BRIAN C

ART UNIT

PAPER NUMBER

2615

20

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,422

Applicant(s)

TSUJII ET AL.

Examiner

Brian C Genco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 19-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 19-24, and 26-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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Applicant's amendment filed May 27, 2004 has been fully considered by the Examiner but is not deemed persuasive.

Applicant argues that the note of admission of the fact made in Paper No. 18 was improper since Applicant's traversal would be moot in view of the claim being canceled.

In response, Examiner notes MPEP 2144.03(c) wherein Examiner asserts that according to the MPEP the note of admission of the fact was proper since it was not traversed by the next office action. As such, it is still taken as an admission of fact.

Applicant argues that claim 29 has been amended so as to overcome the 35 U.S.C. 112 rejection. In response, Examiner disagrees as is noted in the 35 U.S.C. 112 rejection presented bellow.

Applicant traverses the Official notice which was originally taken in Paper No. 14 and requests that evidence be provided.

In response, Examiner notes that Applicant already admitted to the fact noted. Further, in further considering the Nonaka reference it is clearly shown that there is an output amplifier on the read-out IC illustrated in Fig. 2.

Applicant argues that Nonaka is not seen to disclose or to suggest a first power source that supplies power to the sensor unit through at least the signal line adapted to read out an electrical signal.

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In response, Examiner notes the image sensor disclosed by Nonaka wherein lines g1, g2, and g3 clearly supply power to the sensor unit through at least the signal line adapted to read out an electrical signal similar to the way in which line Lr1 of Fig. 3 of the instant invention supplies power to the sensor unit through at least the signal line adapted to read out an electrical signal.

Applicant argues that Shimizu discloses increasing and reducing power to the amplifier 62, but does not disclose starting to supply power to the preamplifier after the first power source starts to supply electrical power to the sensor unit.

In response, Examiner notes that it is clearly stated in the section cited by Applicant that it is possible to supply no power from the output amplifier power source circuit 68 to the output amplifier 62 during the exposure of the CCD 6. Thus, if no power is supplied during the times of the previously described reduced power then the power must be started to supply power to the amplifier during times of the previously described increased power.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in

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the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In regards to claim 29, Examiner notes that there is no description in Applicant's disclosure of "said first power source so as to stop a supply of electrical power to said read-out circuit." Examiner notes that it is explicitly claimed in claim 1 that said first power source is adapted to "supply electrical power to said sensor unit", not to said read-out circuit. In contrast it is further claimed in claim 1 that a second power source is adapted to "supply electrical power to said preamplifier" As such, Examiner is treating claim 29 as reciting "said second power source so as to stop a supply of electrical power to said read-out circuit."

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 29, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 recites the limitation "said read-out circuit" in line 4. There is insufficient antecedent basis for this limitation in the claim. Examiner notes that this should be "said preamplifier" and will be examined as such.

Claim 30 recites the limitation "said read-out circuit" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner notes that this should be "said preamplifier" and will be examined as such.

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Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “signal line” in claim 1 is used by the claim to mean “control line” such as control lines Lr1 of Fig. 3, while the accepted meaning is “signal line” such as signal lines Lc1 of Fig. 3. The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 19-25, 27, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over (JP 11-151233 to Nonaka) in view of (USPN 6,567,125 to Shimizu).

In regards to claim 1 Nonaka discloses an image sensing apparatus comprising:
a sensor unit which consists of a plurality of pixels for converting radiation to an electrical signal (e.g., element 22 of Fig. 1);

a first power source adapted to supply electrical power to said sensor unit (e.g., Examiner notes that it is implicit to have a first power source to supply power to said sensor unit in order for it to work. Wherein Examiner notes that the implicit first power supply circuit supplies power to said sensor unit through at least said signal lines g1-g3 of Fig. 2 similar to that of line Lr1 of Fig. 3 of the instant invention);

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a signal line adapted to read out said electrical signal (e.g., elements g1-g3 of Fig. 2 are a signal line adapted to read out said electrical signal, namely they are a control line which provide a control signal so as to activate switches T11-T33 illustrated in Fig. 2 which in turn read out the signal);

a preamplifier adapted to amplify said electrical signal read out by said signal line (e.g., the amplifier drawn with the read-out IC in Fig. 2).

Nonaka does not explicitly disclose nor preclude a second power source adapted to supply electric power to said preamplifier, or a control circuit adapted to control said second power source to start a supply of electrical power to said preamplifier, after said first power source starts to supply electrical power.

Shimizu discloses a amplifier and a second power source, elements 62 and 68 of Fig. 5 wherein a control circuit starts the supply of power to the amplifier after power is supplied to said sensor unit in order to reduce noise and heat generated by the image sensor (column 5, lines 14-44; column 6, lines 5-47). Therefore it would have been obvious to one of ordinary skill in the art to have added the second power supply and control circuit to Nonaka's invention in order to reduce noise and heat generated by the image sensor. As such, the second power source would control the read-out IC of Nonaka's invention shown in Fig. 2.

In regards to claim 19 see paragraph 0054 of Nonaka's disclosure. Note that the irradiation end detection signal 57 is the "exposure completion signal". Note the radiation generator element 10 of Fig. 1.

In regards to claim 20 see lines 22-27 of paragraph 0053 and paragraph 0054. Note that phototimer 15 is a radiation exposure dose monitor.

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In regards to claim 21 Nonaka discloses an image sensing apparatus according to claim 1, further comprising a radiation generating apparatus for generating the radiation, and an exposure permission timer adapted to generate a radiation exposure permission signal for said radiation generating apparatus to generate radiation after a predetermined time elapses from supply of the electrical power from said first power source to said sensor unit (e.g., Examiner notes paragraph 0053, lines 9-19. Note that there is a predetermined elapse of time from the start of the refresh operation, or the start of supplying power to said sensor unit, to the start of generating radiation wherein the exposure permission timer is part of the control unit 25. Note that the image sensing preparation completion signal 55 is the claimed radiation exposure permission signal. Note the radiation generator element 10 of Fig. 1), and

wherein said control circuit controls said second power source so as to start a supply of electrical power to said preamplifier on the basis of a timing of generating a radiation exposure permission signal (e.g., Examiner notes that on the basis of receiving a radiation exposure permission signal the generation of radiation is started, wherein an exposure period is set (paragraph 0053, lines 22-27; Figs. 4 and 6), wherein on the basis of completion of the exposure time period the read-out operations are preformed and thus the power is supplied to the amplifier).

In regards to claim 22 note that the exposure permission signal is generated on the basis of performing the refresh and dummy read operations, thereby creating a stable state of said sensor unit (paragraphs 0046-0050).

In regards to claim 23 note that the exposure permission signal is generated on the basis of performing the refresh and dummy read operations, thereby creating a stable

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state of an offset of said sensor unit, namely the offsets created by stray charges and currents (paragraphs 0046-0050).

In regards to claim 24 note that the offset amount of said sensor unit is checked by said exposure permission timer, namely control unit 25, through checking the completion of the refreshing and dummy read operations, wherein upon completion of the refreshing and dummy read operations the exposure permission signal is generated.

In regards to claim 27 as depicted in Figs. 4 and 6 the refresh and dummy read operations are preformed on the basis of the depression of the irradiation button, or the exposure preparation signal, wherein the power is supplied to the sensor unit upon starting the refresh operation as discussed above.

In regards to claim 28 note in Figs. 4 and 6 the offset correction is the refresh and dummy read operation wherein it is started on the basis of the irradiation button, or exposure preparation signal, and upon completion of the refresh and dummy read operations the radiation is generated.

In regards to claim 30 note that element 62 of Shimizu's disclosure is a preamplifier and Fig. 2 of Nonaka's disclosure the read-out IC comprises a multiplexer and a preamplifier wherein when power is supplied to the preamplifier it is also supplied to the multiplexer since they are on the same IC.

In regards to claim 31 see Examiner's notes on the rejections above.

Claims 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over (JP 11-151233 to Nonaka) in view of (USPN 6,567,125 to Shimizu) in view of (USPN 5,060,069 to Aoki) in view of (USPN 4,675,747 to Hanma et al.).

Neither Nonaka nor Shimizu explicitly disclose nor preclude to stop a supply of electrical power to the preamplifier on the basis of a timing of the completion of the read-out operation.

Aoki discloses independently supplying power to the signal processing block (element 18 of Fig. 1) and the compression block (element 22 of Fig. 1) and only when they are being used so as to save power (column 3, lines 1-51), wherein the system control (element 40 of Fig. 1) supplies power to these blocks at the corresponding times of use. In other words the Aoki reference as a whole teaches supplying power to camera systems independently only when those systems are being used so as to save power.

Examiner notes that it is known in the art to only use the read-out circuit at specific time intervals as disclosed by Hanma et al., herein Hanma. Hanma discloses selectively allowing a scanning circuit to be applied to an image sensor only during times in which the scanning circuit is needed (e.g., column 5, lines 20-28 and lines 62-67).

Examiner further notes that Nonaka discloses an idling period as depicted in Fig. 4 and described in paragraph 0052.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have adapted Nonaka's invention so as to have a power supply control circuit to only supply power to the image sensor and scanning circuit when they are in use in order to save power.

Thus based on the teaching of Aoki and Hanma, after the signals are read out of the image sensor then both the image sensor and preamplifier are not needed. Therefore as an extension of the teaching of Aoki and Hanma it would have been obvious to

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terminate power to both the image sensor and the preamplifier circuit after the preamplifier circuit finishes reading out all of the signals.

In regards to claim 29 see Examiners notes on the rejection of claim 26.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-308-4357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

July 2, 2004



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